

CLAIMS

1. An extruder system with a gear pump, comprising an extruder for axially extruding a rubber or plastic material in a barrel by rotation of an extrusion screw arranged in the barrel, and a gear pump driven by a rotational force for rotating the
5 extrusion screw so that a predetermined amount of the material extruded from the extruder is discharged by engagement of gears, wherein:

said gear pump comprises a driving pinion arranged coaxially to the extrusion screw and fixedly secured to a tip end of the extrusion screw, at least one driven pinion meshed with, and driven by the driving pinion and rotatable about a rotational shaft that is
10 parallel to a rotational shaft of the extrusion screw, and a gear casing accommodating these pinions therein;

said gear casing comprises side plates arranged on both axial sides of the pinions leaving a small clearance therefrom, and extending perpendicularly to the rotational shaft of the extrusion screw, and a casing body arranged between the side plates and enclosing
15 a space on a radially outer side of the pinions;

said rotational shaft of the driven pinion is fixedly secured to the side plates; and

said side plates includes a side plate situated on the suction side adjacent to the extrusion screw and a side plate situated on the discharge side remote from the extrusion screw, said side plate on the suction side having a suction port that is arranged opposite to
20 that side of engagement region between the driving pinion and the driven pinion, where their teeth are being disengaged from each other, and said side plate on the discharge side having a discharge port that is arranged opposite to that side of the engagement region between the driving pinion and the driven pinion, where their teeth are being engaged from each other, said suction port and said discharge port being maintained out of an axial
25 communication with each other by said pinions.

2. The extruder system according to claim 1, wherein the teeth of said driving pinion and said driven pinion are comprised of bevel gear teeth.

3. The extruder system according to claim 1 or 2, wherein said side plates on the suction and discharge sides are formed with recesses for preventing jamming of the
30 material, respectively, said recesses being situated at locations on those side of the suction port and the discharge port, which are adjacent to the engagement region of the driving pinion and the driven pinion, respectively.

4. The extruder system according to any one of claims 1 to 3, wherein said casing includes a cooling jacket.